

Remarks

Claims 1, 2, 4, 5 and 15 are amended. Claims 1 to 15 are pending in this application of which claims 1, 5 and 15 are in independent form.

Claims 1 to 15 were rejected under 35 USC 112, second paragraph, as being indefinite because it was not clear as to what was intended by the first and second flow channels "opening" at the peripheral region/armature plate. Accordingly, claim 1 is amended herein to recite that the first flow channel opens out at the armature plate at the side thereof facing toward the coil. This can be seen in FIG. 1 wherein the first flow channel 8 opens out at the first side of the armature plate 5 facing toward the coil 2. The armature plate 5 has a peripheral region which is directly above the outlet of the first flow channel 8 as can be seen in FIG. 1 and the first flow channel 8 opens out at this peripheral region. Thus, claim 1 now includes the clause:

"said armature plate (5) having a peripheral region and the first flow channel (8) opening out at said peripheral region of said armature plate (5);"
(parenthetical material added)

The second flow channel 9 opens out on the side 34 of the armature plate 5 facing away from the coil 2 and communicates with the housing outer side via breakthroughs 10 in the housing cover 7. Accordingly, it can be seen in FIG. 1 that the second flow channel 9 opens out at the armature plate 5. This too is expressed in claim 1 with the clause:

"a second flow channel (9) opening out

at said armature plate (5);" (parenthetical material added)

In view of the above, claim 1 should now be definite as required by the statute.

Claim 4 was objected to because the structure of the gap formed at the periphery of the armature plate should be clarified. The gap formed at the periphery of the armature plate is an annular gap and allows fluids to pass between said first and second channel when the armature plate 5 is in the first position and claim 4 is appropriately amended herein so that it too should now be definite.

Applicants appreciatively note that claims 5 to 11 and 15 would be allowable if rewritten to overcome the rejections under 35 USC 112, second paragraph. Claims 5 and 15 are amended herein to incorporate all of the claims from which they had depended corrected as set forth above so that these claims should be definite. Claims 6 to 11 are all dependent from claim 5 so that claims 5 to 11 and 15 should now be in condition for allowance.

Claims 1 to 4 and 12 to 14 were rejected under 35 USC 103(a) as being unpatentable over Krimmer et al. The following will show that claim 1, as amended, patentably distinguishes the applicants' invention over this reference.

The applicants' invention is directed to an electromagnetic valve having an armature plate whereat a first flow channel and a second flow channel open. The first flow channel as well as the second flow channel extend up to the armature plate so that the connection of the two flow channels with each other can be

switched via the armature plate. In a first position of the armature plate, the two flow channels are connected to each other and, in a second position, the two flow channels are separated from each other. When the coil is energized by a current flowing therethrough, the two flow channels are separated from each other. In the deactivated state of the valve (that is, when no current flows in the coil of the valve), the valve is open and the flow channels are connected to each other. The electromagnetic valve can, for example, be used for supplying fuel to an internal combustion engine. Because the valve is open in the currentless or deenergized state, it is ensured that a supply of fuel is still possible when there is an interruption of the current supply to the coil.

A valve opened when there is no current flowing through the coil is nowhere suggested in Krimmer et al. In this reference, a sealing seat 103 is arranged on the side of the armature plate facing away from the electromagnet. A coil spring presses the armature plate against the sealing seat. In the currentless state, the valve of Krimmer et al is closed because the armature plate is pressed against the sealing seat 103 and the flow channels 11 and 12 are separated from each other. When there is a current flow through the coil, the armature plate is pulled and lifts away from the sealing seat 103. In this way, the two flow channels 11 and 12 are connected to each other.

From this it can be seen that the valve disclosed in Krimmer et al has a basically different function than the valve of the applicants' claim 1. A currentless open valve is nowhere suggested in this reference. More specifically, nowhere in

Krimmer et al can our person of ordinary skill arrive at the idea of providing an electromagnetic valve wherein the two flow channels are connected to each other when there is no current flowing in the coil of the valve as in the applicants' invention. This is defined in applicants' claim 1 with the clauses:

"said armature plate being movable between a first position whereat said first and second channels communicate with each other and a second position whereat said first and second flow channels are fluidly separated from each other; and,

wherein there is a current flow in said coil when said armature plate is in said second position." (emphasis added)

In view of the above, applicants submit that claim 1 should now patentably distinguish their invention over Krimmer et al and be allowable. Claims 2 to 4 and 12 to 14 are all dependent from claim 1 so that these claims too should now be allowable.

Reconsideration of the application is earnestly solicited.

Respectfully submitted,



Walter Ottesen
Reg. No. 25,544

Walter Ottesen
Patent Attorney
P.O. Box 4026
Gaithersburg, Maryland 20885-4026

Phone: (301) 869-8950

Date: December 14, 2005